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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/751,715	01/05/2004	Gary G. Churan	9301-81	2262

7590 07/12/2005

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EXAMINER

TRAN, DALENA

ART UNIT	PAPER NUMBER
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3661

DATE MAILED: 07/12/2005

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary	Application No. 10/751,715	Applicant(s) CHURAN, GARY G.	
	Examiner Dalena Tran	Art Unit 3661	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 13 May 2005.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-69 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1-22, 28, 29, 32-56, 62, 63 and 66-69 is/are rejected.
- 7) ☒ Claim(s) 23-27, 30, 31, 57-61, 64 and 65 is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. _____.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- * See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- | | |
|--|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413) |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | Paper No(s)/Mail Date. _____ |
| 3) <input checked="" type="checkbox"/> Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08) | 5) <input type="checkbox"/> Notice of Informal Patent Application (PTO-152) |
| Paper No(s)/Mail Date <u>1/5/04</u> . | 6) <input type="checkbox"/> Other: _____ |

DETAILED ACTION

Notice to Applicant(s)

1. This office action is responsive to the response on 5/13/05 to restriction requirement.

The examiner reconsider the restrict requirement, and withdrawn the restriction requirement.

Therefore, this office action will be examining on claims 1-69. Claims 1-69 are pending.

2. The prior art submitted on 1/5/04 has been considered.
3. The dependency of claim 47 should be corrected.

Claim Rejections - 35 USC § 102

4. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(e) the invention was described in (1) an application for patent, published under section 122(b), by another filed in the United States before the invention by the applicant for patent or (2) a patent granted on an application for patent by another filed in the United States before the invention by the applicant for patent, except that an international application filed under the treaty defined in section 351(a) shall have the effects for purposes of this subsection of an application filed in the United States only if the international application designated the United States and was published under Article 21(2) of such treaty in the English language.

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

5. Claims 1-9, and 36-44, are rejected under 35 U.S.C. 102(e) as being anticipated by Krasner (6,133,874).

As per claim 1, Krasner discloses a wireless communications system comprising:
a terrestrial wireless network that is configured to transmit wireless communications including Global Positioning System (GPS) data over a satellite frequency band (see column 10, lines 3-43); and a mobile terminal that is configured to receive the wireless communications including the GPS data from the terrestrial wireless network over the satellite frequency band and to

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perform pseudo-range measurements using the GPS data that is received over the satellite frequency band (see columns 10-11, lines 44-60).

As per claims 2, and 5, Krasner discloses a network operations center and wherein the mobile terminal is further configured to transmit the pseudo-range measurements to the network operations center (see columns 9-10, lines 38-2).

As per claim 3, Krasner discloses the network operations center is configured to receive the pseudo-range measurements and to determine a position of the mobile terminal using the pseudo-range measurements (see columns 5-6, lines 62-43).

As per claim 4, Krasner discloses the network operations center is further configured to transmit the position of the mobile terminal to the mobile terminal (see columns 12-13, lines 36-16; and columns 15-17, lines 41-10).

As per claim 6, Krasner discloses a space-based component that is configured to wirelessly communicate with the mobile terminal over the satellite frequency band and wherein the mobile terminal is configured to transmit the pseudo-range measurements to the network operations center via the space-based component (see column 19, lines 1-28).

As per claim 7, Krasner discloses the mobile terminal is further configured to receive GPS coarse/acquisition (C/A) signals from a plurality of GPS satellites, to estimate Doppler shifts in the GPS C/A signals and to estimate received code phases of the GPS C/A signals using the Doppler shifts that are estimated (see columns 17-18, lines 45-49).

As per claim 8, Krasner discloses the GPS data that is received from the terrestrial wireless network includes a Doppler shift that is measured at the terrestrial wireless network and a code phase that is measured at the terrestrial wireless network and wherein the mobile terminal

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is further configured to estimate residual Doppler shifts in the GPS C/A signals due to mobile terminal motion using the Doppler shift and code phase that are measured at the terrestrial wireless network and to estimate the code phases of the GPS C/A signals using the Doppler shift that is estimated (see columns 7-8, lines 26-48).

As per claim 9, Krasner discloses the satellite frequency band is outside the GPS frequency band (see columns 6-7, lines 44-25).

Claims 36-44 are method claims corresponding to system claims 1-9 above. Therefore, they are rejected for the same rationales set forth as above.

6. Claims 10-19, and 45-53, are rejected under 35 U.S.C. 102(b) as being anticipated by Watters et al. (5,982,324).

As per claim 10, Watters et al. discloses a terrestrial wireless network for a cellular wireless communications system comprising: a plurality of terrestrial base stations that are configured to transmit wireless communications including global Positioning System (GPS) data to mobile terminals over a satellite frequency band (see the abstract; columns 9-10, lines 46-13; column 11, lines 17-44; and column 12, lines 25-67).

As per claim 11, Watters et al. discloses wherein the plurality of terrestrial base stations are further configured to receive pseudo-range measurements from mobile terminals over the satellite frequency band (see columns 6-7, lines 30-39; and columns 17-18, lines 12-3).

As per claim 12, Watters et al. discloses a network operations center and wherein the plurality of terrestrial base stations are further configured to transmit the pseudo-range measurements to the network operations center (see columns 14-15, lines 63-67).

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As per claim 13, Watters et al. discloses the network operations center is configured to receive the pseudo-range measurements and to determine a position using the pseudo-range measurements (see column 16 lines 1-39).

As per claim 14, Watters et al. discloses the network operations center is further configured to transmit the position of the mobile terminal to the mobile terminal (see columns 7-8, lines 40-36; and column 18, lines 20-53).

As per claim 15, Watters et al. discloses the terrestrial base stations comprise terrestrial cellular network base stations, ancillary terrestrial network base stations and/or access points of a wireless local and/or wide area network (see column 13, lines 38-67).

As per claim 16, Watters et al. discloses wherein the satellite frequency band is outside the GPS frequency band (see columns 10-11, lines 14-16).

As per claim 17, Watters et al. discloses a mobile terminal comprising: a receiver that is configured to receive wireless communications including Global Positioning System (GPS) data over a satellite frequency band that is outside a GPS frequency band (see column 13, lines 1-37; and columns 19-20, lines 48-13); and a processor that is configured to perform pseudo-range measurements using the GPS data that is received over the satellite frequency band that is outside the GPS frequency band (see columns 11-12, lines 45-24; column 13, lines 38-67; and columns 20-21, lines 14-32).

As per claim 18, Watters et al. discloses a transmitter that is configured to transmit the pseudo-range measurements over the satellite frequency band that is outside the GPS frequency band (see column 14, lines 28-62).

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As per claim 19, Watters et al. discloses wherein the receiver is further configured to receive GPS C/A signals from a plurality of GPS satellites and wherein the processor is further configured to estimate Doppler shifts in the GPS C/A signals and to estimate received code phases of the GPS C/A signals using the Doppler shifts that are estimated (see columns 16-17, lines 40-11).

Claims 45-49, and 50-53, are method claims corresponding to system claims 10-14; and 16-19 above. Therefore, they are rejected for the same rationales set forth as above.

Claim Rejections - 35 USC § 103

7. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

8. Claims 20-22, 28-29, 32-35, 54-56, 62-63, and 66-69, are rejected under 35 U.S.C. 103(a) as being unpatentable over Watters et al. (5,982,324) in view of Krasner (6,133,874).

As per claim 20, Watters et al. do not disclose a Doppler shift, and a code phase. However, Krasner discloses the GPS data that is received from the terrestrial wireless network includes a Doppler shift that is measured at the terrestrial wireless network and a code phase that is measured at the terrestrial wireless network and wherein the mobile terminal is further configured to estimate residual Doppler shifts in the GPS C/A signals due to mobile terminal motion using the Doppler shift and code phase that are measured at the terrestrial wireless network and to estimate the code phases of the GPS C/A signals using the Doppler shift that is estimated (see columns 7-8, lines 26-48). It would have been obvious to one of ordinary skill in

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the art at the time the invention was made to modify the teach of Watters et al. by combining a Doppler shift, and a code phase that is measured at the terrestrial wireless network for accurately determine the mobile terminal position over the satellite network.

As per claim 21, Watters et al. disclose a mobile terminal comprising: a receiver that is configured to receive Global Positioning System (GPS) C/A signals from a plurality of GPS satellites (see columns 19-20, lines 48-13). Watters et al. do not disclose a Doppler shift. However, Krasner discloses a processor that is configured to estimate Doppler shifts in the GPS C/A signals and to estimate received code phases of the GPS C/A signals using the Doppler shifts that are estimated (see columns 13-14, lines 16-43). It would have been obvious to one of ordinary skill in the art at the time the invention was made to modify the teach of Watters et al. by combining a Doppler shift for accurately determine the mobile terminal position over the satellite network.

As per claim 22, Watters et al. disclose the receiver is further configured to receive from a wireless network a Doppler shift that is measured at the wireless network and a code phase that is measured at the wireless network and wherein the processor is further configured to estimate residual Doppler shifts in the GPS C/A signals due to mobile terminal motion using the Doppler shift and code phase that are measured at the wireless network and to estimate the received code phases of the GPS C/A signals using the Doppler shift that is estimated (see columns 7-8, lines 26-48).

As per claim 28, Watters et al. disclose wherein the wireless network is a terrestrial wireless network (see column 10, lines 3-43).

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As per claim 29, Krasner discloses the terrestrial wireless network comprises a terrestrial cellular network, an ancillary terrestrial network and/or a wireless local and/or wide area network (see column 4, lines 10-48).

Also, as per claim 32, Krasner discloses a transmitter that is configured to transmit the estimated Doppler shifts and/or the estimated received code phases of the GPS C/A signals (see column 15, lines 5-67).

As per claim 33, Watters et al. disclose the mobile terminal includes a GPS processor and a cellular data transceiver therein (see columns 19-20, lines 48-13).

As per claims 34-35, Watters et al. disclose the mobile terminal includes a GPS processor and a cellular voice and data transceiver therein, and wherein the mobile terminal includes a GPS processor, a terrestrial cellular voice and data transceiver and a satellite cellular voice and data transceiver therein (see columns 20-21, lines 14-33).

Claims 54-56, 62-63, and 66-69, are method claims corresponding to system claims 20-22, 28-29, and 32-35 above. Therefore, they are rejected for the same rationales set forth as above.

9. Claims 23-27, 30-31, 57-61, and 64-65, are objected to as being dependent upon a rejected base claim, but would be allowable if rewritten in independent form including all of the limitations of the base claim and any intervening claims.

Conclusion

10. The prior art made of record and not relied upon is considered pertinent to applicant's disclosure:

. Aoki et al. (5,535,430)

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. Sheynblat (6,061,018)

. Krasner (6,104,338)

11. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Dalena Tran whose telephone number is 571-272-6968. The examiner can normally be reached on M-F 6:30 AM-4:00 PM), off every other Friday.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Thomas Black can be reached on 571-272-6956. Effective on July 15, 2005, the new fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

Patent Examiner
Dalena Tran



July 7, 2005